IN THE CLAIMS:

WHAT IS CLAIMED IS:

1. (Amended) A compression treatment system comprising:

a first bladder supported about a limb;

a second bladder supported about the limb, the bladders being in fluid communication with a fluid source and the bladders being inflated such that the first bladder is inflated for a first time period and the second bladder is inflated for a second time period, the second time period being initiated within the first time period; and

a single pressure sensor communicating with the first bladder and the second bladder~~.~~ and a check valve operably connected to the fluid source for preventing fluid leakage back through a pump for monitoring bladder pressure during venous refill detection.

2. (Original) A compression treatment system as recited in claim 1, further comprising a controller that communicates with the pressurized fluid source and the pressure transducer, the controller being configured to monitor and regulate pressure in the bladders.

3. (Original) A compression treatment system as recited in claim 1, wherein the controller is disposed with a housing that is portable.

4. (Original) A compression treatment system as recited in claim 1, wherein the housing includes a plurality of ports connectable to a plurality of bladders.

5. (Original) A compression treatment system as recited in claim 4, wherein the pressure transducer monitors pressure at each of the plurality of ports to determine if a bladder is connected thereto and sends a representative signal to the controller.

6. (Original) A compression treatment system as recited in claim 2, wherein the controller includes separate valves that regulate inflation of the bladders.

7. (Original) A compression treatment system as recited in claim 6, further defining a pneumatic circuit, wherein the pressure transducer is coupled to the pneumatic circuit and disposed between the pressurized fluid source and the valves in the pneumatic circuit.

8. (Original) A compression treatment system as recited in claim 7, wherein the pressure transducer is configured to monitor pressure of each of the bladders.

9. (Original) A compression treatment system as recited in claim 1, further comprising a foot bladder communicating with the pressure transducer.

10. (Amended) A compression treatment system comprising:

a first bladder supported about a limb;

a second bladder supported about the limb, the first and second bladders being in fluid communication with a fluid source and the first and second bladders being inflated such that the first bladder is inflated for a first time period and the second bladder is inflated for a second time period, the second time period being initiated within the first time period;

a third bladder supported about a foot, the third bladder being in fluid communication with the fluid source; and

a single pressure sensor communicating with the bladders and a check valve operably connected to the fluid source for preventing fluid leakage back through a pump for monitoring bladder pressure during venous refill detection.

11. (Original) A compression treatment system as recited in claim 1, wherein the pressurized fluid source alternately inflates the bladders disposed about the limb and the bladder disposed about the foot.

12. (Original) A compression treatment system as recited in claim 10, further comprising a controller that communicates with the pressurized fluid source and the pressure transducer, the controller being configured to monitor and regulate pressure in the bladders.

13. (Original) A compression treatment system as recited in claim 11, wherein the controller is disposed with a housing that is portable.

14. (Original) A compression treatment system as recited in claim 11, wherein the controller includes separate valves that regulate inflation of the bladders.

15. (Original) A compression treatment system as recited in claim 14, further defining a pneumatic circuit, wherein the pressure transducer is coupled to the pneumatic circuit and disposed between the pressurized fluid source and the valves in the pneumatic circuit.

16. (Original) A compression treatment system as recited in claim 10, wherein the pressure transducer is configured to monitor pressure of each of the bladders.

17. (Amended) A compression treatment system comprising:

a first plurality of bladders supported about a first limb;

a second plurality of bladders supported about a second limb, the bladders being in fluid communication with a fluid source and the bladders being inflated such that:

a first bladder of the first plurality of bladders is inflated for a first time period and a second bladder of the first plurality of bladders is inflated for a second time period, the second time period being initiated within the first time period, and

a first bladder of the second plurality of bladders is inflated for a third time period and a second bladder of the second plurality of bladders is inflated for a fourth time period, the fourth time period being initiated within the third time period; and

a single pressure sensor communicating with the bladders and a check valve operably connected to fluid source for preventing fluid leakage back through a pump for monitoring bladder pressure during venous refill detection.

18. (Original) A compression treatment system as recited in claim 17, further comprising a controller that is disposed

with a housing that is portable, the controller communicating with the pressurized fluid source and the pressure transducer, the controller being configured to monitor and regulate pressure in the bladders.

19. (Original) A compression treatment system as recited in claim 1, wherein the pressurized fluid source alternately inflates the bladders disposed about the first limb and the bladders disposed about the second limb.

20. (Amended) A compression treatment system comprising:

a first plurality of bladders being supported about a first limb and a second plurality of bladders being supported about a second limb;

each bladder of the first plurality of bladders and the second plurality of bladders having a separate valve in communication therewith, the valves being in fluid communication with a fluid source and the bladders being inflated such that:

a first valve is open such that a first bladder of the first plurality of bladders is inflated for a first time period and a second valve is open such that a second bladder of the first plurality of bladders is inflated for a second time period, the second time period being initiated within the first time period, and a third valve is open such that a third bladder

of the first plurality is inflated for a third time period, the third time period being initiated within the second time period, and

a fourth valve is open such that a first bladder of the second plurality of bladders is inflated for a fourth time period and a fifth valve is open such that a second bladder of the second plurality of bladders is inflated for a fifth time period, the fifth time period being initiated within the fourth time period, and a sixth valve is open such that a sixth bladder of the second plurality is inflated for a sixth time period, the sixth time period being initiated within the fifth time period;

a single pressure sensor communicating with the bladders; ~~and~~

a controller that communicates with the pressurized fluid source and the pressure transducer, the controller being configured to monitor and regulate pressure in the bladders~~.~~; and a check valve for preventing fluid leakage back through the pump for monitoring bladder pressure during venous refill detection.

21. (Amended) A compression treatment system comprising:

a first and second bladder supported about a limb;

a pressure transducer for monitoring the pressure of the first and second bladders;

a check valve for preventing ~~controlling~~ fluid flow back through ~~with respect to~~ a fluid source for monitoring bladder pressure during venous refill detection, wherein the first and second bladders, pressure transducer and check valve are in fluid communication with the fluid source.

22. (Original) A compression treatment system as recited in claim 21, further comprising a controller that communicates with the fluid source and the pressure transducer, the controller being configured to monitor and regulate pressure in the bladders.

23. (Original) A compression treatment system as recited in claim 21, wherein the housing includes a plurality of ports connectable to a plurality of bladders.

24. (Original) A compression treatment system as recited in claim 23, wherein the pressure transducer monitors pressure at each of the plurality of ports to determine if a bladder is connected thereto and sends a representative signal to the controller.

25. (Amended) A compression treatment system comprising:

at least one bladder supported about a limb;

a pressure transducer for monitoring the pressure of each of the at least one bladder; and

a check valve for preventing ~~controlling~~ fluid flow back through ~~with respect to~~ a fluid source for monitoring bladder pressure during venous refill detection, wherein the check valve is disposed between the fluid source and the pressure transducer.

26. (New) A compression treatment system as recited in claim 1, wherein the check valve operates without an electrical signal to a controller.

27. (New) A compression treatment system as recited in claim 10, wherein the check valve operates without an electrical signal to a controller.

28. (New) A compression treatment system as recited in claim 17, wherein the check valve operates without an electrical signal to a controller.

29. (New) A compression treatment system as recited in claim 20, wherein the check valve operates without an electrical signal to a controller.

30. (New) A compression treatment system as recited in claim 21, wherein the check valve operates without an electrical signal to a controller.

31. (New) A compression treatment system as recited in claim 25, wherein the check valve operates without an electrical signal to a controller.